VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY
SOUTH CENTRAL REGIONAL OFFICE

FACT SHEET
FOR PROPOSED PERMITTING ACTION
UNDER 9 VAC 5 Chapter 80 Article 1 (TITLE V-CLEAN AIR ACT)

APPLICANT:

VA-30260 AIRS ID 51-031-0006
BWX Technologies, Inc. – Mt. Athos Site
P. O. Box 785
Rt. 726, 1570 Mt. Athos Road
Lynchburg, VA 24505-0785

FACILITY LOCATION:

Rt. 726, 1570 Mt. Athos Road, Campbell County
UTM Coordinates are ZONE: 17 EASTING: 671.2 km NORTHING: 4142.6 km

FACILITY DESCRIPTION:

BWX Technologies, Inc. – Mt Athos Site (formerly called Babcock & Wilcox Company) is covered by Standard Industrial Classification (SIC) Code 3443. The facility has the potential to operate twenty-four (24) hours per day, seven (7) days per week, fifty-two (52) weeks per year. The major business performed by BWXT is the production and assembly of unirradiated enriched uranium elements into nuclear reactors or fuel modules for power, propulsion, and research applications. BWXT is primarily a metal fabricator, which involves the fabrication of metal components from stock metals through various machining processes, welding, grinding, pickling, cleaning, and final assembly. Secondary to this is the recovery of uranium fuel, uranium downblending, and the research and development of uranium fuel manufacturing techniques. In addition, BWXT operates nuclear environmental testing laboratories (SIC 8734) for both research and development and for commercial purposes. Support facilities include a steam plant, a water treatment plant, and a wastewater treatment plant.

EMISSIONS SUMMARY:

PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR]	
CRITERIA POLLUTANTS	1999 ACTUAL EMISSIONS
Particulate Matter (PM_{10})	0.1
Nitrogen Oxides (NO_x)	39.0
Sulfur Dioxide (SO_2)	0.1
Carbon Monoxide (CO)	1.0
Volatile Organic Compounds (VOC)	12.3

PLANTWIDE EMISSIONS SUMMARY [TONS PER YEAR] (Cont'd)	
HAZARDOUS AIR POLLUTANTS	1999 ACTUAL EMISSIONS
Hydrogen Fluoride	4.2
Hydrogen Chloride	0.2

TITLE V PROGRAM APPLICABILITY BASIS:

This facility has the potential to emit 686 tons per year of SO_2 and greater than 100 tons per year of NOx. Due to this facility's potential to emit over 100 tons per year of criteria pollutants, BWX Technologies, Inc. – Mt. Athos Site is required to have an operating permit pursuant to Title V of the Federal Clean Air Act as amended and 9 VAC 5 Chapter 80 Article 1.

LEGAL AND FACTUAL BASIS FOR DRAFT PERMIT CONDITIONS:

The State and Federally-enforceable conditions of the Title V Operating Permits are based upon the requirements of the Commonwealth of Virginia Federal Operating Permit Regulations for the purposes of Title V of the Federal Clean Air Act (9 VAC 5 Chapter 80 Article 1), and underlying applicable requirements in other state and federal rules. Applicable requirement means all of the following as they apply to emission units in a Title V source:

a. Any standard or other requirement provided for in the State Implementation Plan or the Federal Implementation Plan, including any source-specific provisions such as consent agreements or orders.

b. Any term or condition of any preconstruction permit issued pursuant to 9 VAC 5-80-10, Article 8 (9 VAC 5-80-1700 et seq.) of this part or 9 VAC 5-80-30 or of any operating permit issued pursuant to 9 VAC 5 Chapter 80 Article 5, except for terms or conditions derived from applicable state requirements or from any requirement of these regulations not included in the definition of applicable requirement.

c. Any standard or other requirement prescribed under these regulations, particularly the provisions of 9 VAC 5 Chapter 40 (9 VAC 5-40-10 et seq.), 9 VAC 5 Chapter 50 (9 VAC 5-50-10 et seq.) or 9 VAC 5 Chapter 60 (9 VAC 5-60-10 et seq.), adopted pursuant to requirements of the federal Clean Air Act or under " 111, 112 or 129 of the federal Clean Air Act.

d. Any requirement concerning accident prevention under " 112(r)(7) of the federal Clean Air Act.

e. Any compliance monitoring requirements established pursuant to either ' 504(b) or ' 114(a)(3) of the federal Clean Air Act or these regulations.

f. Any standard or other requirement for consumer and commercial products under ' 183(e) of the federal Clean Air Act.

g. Any standard or other requirement for tank vessels under ' 183(f) of the federal Clean Air Act.

h. Any standard or other requirement in 40 CFR Part 55 to control air pollution from outer continental shelf sources.

i. Any standard or other requirement of the regulations promulgated to protect stratospheric ozone under Title VI of the federal Clean Air Act, unless the administrator has determined that such requirements need not be contained in a permit issued under this article.

j. With regard to temporary sources subject to 9 VAC 5-80-130, (i) any ambient air quality standard, except applicable state requirements, and (ii) requirements regarding increments or visibility as provided in Article 8 (9 VAC 5-80-1700 et seq.) of this part.

k. Any standard or other requirement of the acid deposition control program under Title IV of the Clean Air Act or the regulations promulgated thereunder.

l. Any standard or other requirement governing solid waste incineration under '129 of the Clean Air Act.

Each State and Federally-enforceable condition of the draft Title V Operating Permit references the specific relevant requirements of 9 VAC 5 Chapter 80 Article 1 or the applicable requirement upon which it is based. Any condition of the draft Title V permit that is enforceable by the state but is not federally-enforceable is identified in the draft Title V permit as such.

Existing Fuel Burning Equipment

Two B&W Integral Furnace Co. boilers EU-B-1 and EU-B-2, Bethlehem Corp. boiler EU-BB-2, and American Standard boiler EU-BC-1

These units are existing units and therefore are subject to Rule 4-8. These units normally burn natural gas and burn only #2 fuel oil as a standby fuel. Since these units can only burn natural gas and distillate oil they will never emit SO_2 at the rate allowed for existing sources (S=2.64K). BWXT is required to keep annual records of fuel consumption and have a statement that the distillate oil complies with the American Society for Testing and Materials specifications for fuel oil numbers 1 or 2.

			Particulate Limit			SOx Limit	
Boiler Name	Boiler No.	MMBtu/hr	lb/MMBtu	lb/hr	t/yr @8760	lb/hr	t/yr @8760
B&W Integral Furnace	EU-B-1	26.5	0.3782	10.02	43.9	69.96	306.4
B&W Integral Furnace	EU-B-2	26.5	0.3782	10.02	43.9	69.96	306.4
Bethlehem Corp	EU-BB-2	2.1	0.3782	0.81	3.5	5.65	24.8
American Standard	EU-BC-1	4.2	0.3782	1.58	6.9	11.04	48.3
	TOTAL	59.3	0.3782	22.43	98.3	156.61	686.0

Normally there is no opacity from the boiler stacks, which is normal for properly operated natural gas fired boilers, even when operating on distillate fuel oil. Since the opacity limit for existing sources is 20%, except for one 6 minute period in any on hour of not more than 60%, BWXT is required to conduct weekly observation of the presence of visible emissions from each of the boiler stacks. If visible emissions are observed they are to make timely corrective action so that the unit resumes operation with no visible emissions or conduct a visible emissions evaluation in accordance with Method 9.

The above opacity monitoring should serve as adequate periodic monitoring for PM and PM_{10} for the boilers.

Bakeoff/Replenishing Tank (EU-10-10)

Maintenance and recordkeeping should serve as adequate monitoring for this system.

Uranium Metal Dissolvers (EU-15A-1)

The uranium metal dissolving system is equipped with a scrubber system (PC-14A-2 and 3, stack VS-14A-4) that has devices to measure differential pressure drop across each tower and the pressure on each recirculating line. Each pressure drop meter is to be observed by the permittee with a frequency of not less than once per day and a log of the observations is to be made. Also, recordkeeping, maintenance and operating procedures are required. Monitoring of opacity will be required of the source at least one time per week, when the units are operating. They are to observe for the presence of visible emissions from the stack. If visible emissions are observed, the permittee will have the option to take timely corrective action to resume operations without visible emissions or perform a VEE in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions compliance. The permittee will keep a log of

observations, any VEE recordings, and any corrective actions. If the units have not operated for any period during the week, this fact shall be noted in the log, and that the visible emission observation was not required.

Uranium Metal Dissolver Column (EU-14A-19)

This unit can process a 4 kg. batch of material in 6 hours. The only emission is NOx (6.4 tons/yr potential). The exhaust from this dissolver is also controlled by scrubber PC-14A-1. Since this unit is a new unit, the opacity is 20%, except for one 6 minute period in any on hour of not more than 30%. Since the exhaust from this unit exits from the same stack as emission units EU-15A-1 (VS-14A-1), the opacity limitation for EU-15A-1 is 20%, except for one 6 minute period in any one hour of not more than 30%. Monitoring of opacity will be required of the source at least one time per week, when the unit is operating. They are to observe for the presence of visible emissions from the stack. If visible emissions are observed, the permittee will have the option to take timely corrective action to resume operations without visible emissions or perform a VEE in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions compliance. The permittee will keep a log of observations, any VEE recordings, and any corrective actions. If the unit has not operated for any period during the week, this fact shall be noted in the log, and that the visible emission observation was not required.

Uranium Fuel Dissolver (EU-14A-17)

The potential NOx emissions are 8.9 tons/yr, which is less than the exemption level in 9 VAC 5-80-11. A permit was not required for this installation per letter dated July 8, 1999. These are included in the Title V permit, since the potential NOx emissions are greater than 5 tons/yr.

Rotary Calciner (EU-13A-3)

Maintenance, operating procedures, and recordkeeping should serve as adequate monitoring for this unit. Monitoring of opacity will also be required of the source at least one time per week, when the unit is operating. They are to observe for the presence of visible emissions from the stack. If visible emissions are observed, the permittee will have the option to take timely corrective action to resume operations without visible emissions or perform a VEE in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions compliance. The permittee will keep a log of observations, any VEE recordings, and any corrective actions. If the unit has not operated for any period during the week, this fact shall be noted in the log, and that the visible emission observation was not required.

CRF 6" Centorr Finishing Furnace (EU-13A-2)

Maintenance, operating procedures, and recordkeeping should serve as adequate monitoring for this unit. Monitoring of opacity will also be required of the source at least one time per week, when the unit is operating. They are to observe for the presence of visible emissions from the stack. If visible emissions are observed, the permittee will have the option to take timely corrective action to resume operations

without visible emissions or perform a VEE in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions compliance. The permittee will keep a log of observations, any VEE recordings, and any corrective actions. If the unit has not operated for any period during the week, this fact shall be noted in the log, and that the visible emission observation was not required.

Dye Check Room (EU-8A-1)

The Dye Check Room is where fabricated parts are inspected for imperfections. Parts are wiped with rags containing Dye Check chemicals. Normally small amounts of Dye Check chemicals are used. BWXT will be required to keep annual throughput records of volatile organic compound emissions

General Cleaning of Metal Components

This includes all solvent cleaning at the facility such as cleaning tables, machines, and general wipe down of components. BWXT will be required to keep records of yearly cleaning material usage sufficient to calculate volatile organic compound emissions and to calculate the emissions on calendar year basis.

Pickling Processes (EU-10-9)

NOx is the major pollutant emitted from the pickling processes. The pickling processes are controlled by scrubbers. The pickling units are existing units and there are no applicable requirements for NOx emissions for existing sources. However, there is an opacity limit of 20%, except for one 6 minute period in any one hour of not more than 60% for the scrubber exhaust stacks. BWXT is required to conduct weekly observations of the presence of visible emissions from each of the scrubber stacks. If visible emissions are observed they are to make timely corrective action so that the unit resumes operation with no visible emissions.

REQUEST FOR VARIANCES OR ALTERNATIVES:

None

COMMENT PERIOD:

The public notice appeared in the News & Advance on July 1, 2002.

Beginning Date: July 1, 2002
Ending Date: July 30, 2002

All written comments should be addressed to the following individual and office:

Department of Environmental Quality
South Central Regional Office
7705 Timberlake Road
Lynchburg, VA 24502
Phone: (434) 582-5120 Fax: (434) 582-5125

PROCEDURE FOR REQUESTING PUBLIC HEARING:

During the public comment period any interested person may submit written comments on the draft permit and may request a public hearing, if no public hearing has already been scheduled. A request for a public hearing shall be in writing to the above address and shall state the nature of the issues proposed to be raised in the hearing. The Director shall grant such a request for a hearing if he concludes that a public hearing is appropriate. Any public hearing shall be held in the general area in which the facility is located.

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
South Central Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Addendum to the September 16, 2002 Statement of Legal and Factual Basis

BWX Technologies, Inc. - Mt Athos Site
Rt. 726 Mt. Athos Road – Campbell County, Virginia
Permit No. SCRO30260

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, BWX Technologies, Inc. has applied for a Title V Operating Permit for its Mt. Athos Site, Campbell County facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____ Date:_____
Keith Sandifer
434-582-5120

Air Permit Manager:_____ Date:_____
D. J. Brown

Regional Director:_____ Date:_____
T. L. Henderson

FACILITY INFORMATION

Permittee
BWX Technologies, Inc. - Mt Athos Site
P. O. Box 785
Lynchburg, VA 24505-0785

Facility
BWX Technologies, Inc. - Mt Athos Site
P. O. Box 785
Lynchburg, VA 24505-0785

AIRS ID No. 51-031-0006

PERMIT AMENDMENT INFORMATION

This amendment is being generated to incorporate equipment that was installed per an NSR permit that was issued on September 23, 2002 and to include an emergency diesel generator that was exempt from NSR permitting.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was conducted on September 30, 2003. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The following emissions units added to this facility consist of:

Two 5" Thermocraft Vertical Tube Furnaces (EU-12A-3A and EU-12A-3B) controlled by packed column scrubber and a dry adsorber for hydrogen chloride. Stack ID. (VS-14A-3). Construction began on September 30, 2002 and operation began on April 25, 2003.

EMISSION UNIT APPLICABLE REQUIREMENTS - Vertical Tube Furnaces (EU-12A-3A and EU-12A-3B)

Limitations

Conditions XIII.A.1. & 2. Contain the limitations. These were taken from the NSR permit issued 09/23/2002.

Monitoring

Condition XIII.B.1. requires that the scrubber shall be equipped with devices to continuously measure the scrubber liquid flow rate and the differential pressure drop across scrubber. This requirement was taken from the NSR permit issued 09/23/2002.

Condition XIII.B.2. contains the opacity periodic monitoring. Monitoring of visible emissions will be required of the source to make an observation of the vertical tube furnace stack (VS-14A-3) at least one time per week, when the units are operating. They are to observe for the presence of visible emissions from the stack. If visible emissions are observed, the permittee will have to take timely corrective action to resume operations without visible emissions or perform a VEE in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions compliance. The permittee will keep a log of observations, any VEE recordings, and any corrective action. If the unit has not operated during the week, this fact shall be noted in the log, and that the visible emission observation was not required. Also, if visible emissions have been conducted for 12 consecutive weeks and no visible emissions are seen, the permittee may reduce the monitoring frequency to once per month for the stack.

Recordkeeping

Condition XIII.C. contains the record keeping requirements for the vertical tube furnaces. These are taken from the NSR permit issued 09/23/2002.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The only reporting that is required is stated in the General Conditions.

Streamlined Requirements

Condition 7 of the NSR permit issued 09/23/2002 requires test/monitoring ports has not been included, since the unit has been constructed as required by the permit.

Condition 8 of the NSR permit issued 09/23/2002 requires initial notifications. These have been streamlined out, since the facility has been constructed and is operating and notifications have been made.

GENERAL CONDITIONS

The General Conditions have been adjusted to comply with the current boilerplate.

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

INSIGNIFICANT EMISSION UNIT

The 685 bhp diesel Caterpillar emergency generator Model #:CCB01005 (EU-1A-13) is included in the Title V permit as an insignificant emissions unit, since the potential NOx emissions are 4.1 tons per year (685 bhp X 0.024 lb NOx/ bhp-hr X 500 hr/yr / 2000 lb/ton) with a potential operation of 500 hours per year. The 0.024 lb/hp-hr emission factor is from AP-42 Table 3.4-1 dated November 1996 for large diesel engines. Per the John Seitz memo dated September 6, 1995, the EPA believes that 500 hours is an appropriate default assumption for estimating the number of hours that an emergency generator could be expected to operate under worst-case condition. Per 9 VAC 5-80-70B.1, units with uncontrolled emissions less than 5 tons/yr are deemed insignificant. The other criteria pollutants have a smaller emission factor than NOx. Therefore, those emissions would be less than 5 tons per year. The use of #2 fuel oil will assure compliance with the SO2 emission limits per Rule 4-8.

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

Public participation is not required for the proposed minor permit modification, per 9 VAC 5-80-210 D.

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
South Central Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Addendum to the July 26, 2004 Statement of Legal and Factual Basis

BWX Technologies, Inc. - Mt Athos Site
Rt. 726 Mt. Athos Road – Campbell County, Virginia
Permit No. SCRO30260

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, BWX Technologies, Inc. has applied for a Title V Operating Permit for its Mt. Athos Site, Campbell County facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

Engineer/Permit Contact:_____ Date:

Air Permit Manager:_____ Date:

Regional Director:_____ Date:

FACILITY INFORMATION

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P. O. Box 785
Lynchburg, VA 24505-0785

Facility
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P. O. Box 785
Lynchburg, VA 24505-0785

AIRS ID No. 51-031-0006

PERMIT AMENDMENT INFORMATION

This amendment is being generated to incorporate control device (PC-14A-2 and PC-14A-3) changes for uranium dissolvers (EU-15A-1) that were installed per an NSR permit that was issued on October 28, 1999, as amended on December 23, 2004.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was conducted on September 30, 2003. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found in violation of any state or federal applicable requirements at this time.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The following emissions units were modified at this facility consist of:

four uranium metal dissolvers (EU-15A-1) rated at 20 kg/batch (each) controlled by a two-stage ejector/scrubber system (PC-14A-2 and PC-14A-3), Stack ID (VS-14A-4).

EMISSION UNIT APPLICABLE REQUIREMENTS - Uranium Metal Dissolvers (EU-15A-

1)
Limitations

Conditions V.A.1. - 4. contain the limitations. These were taken from the NSR permit issued 12/23/2004.

Monitoring

Condition V.B.1. requires that the ejector/scrubber system (PC-14A-2 and PC-14A-3) shall be equipped with devices to continuously measure the ejector/scrubber liquid flow rate and the differential pressure drop across the ejector/scrubber and the ejector/scrubber liquid pH. This requirement was taken from the NSR permit issued 12/23/2004.

Condition V.B.2. requires each pressure drop meter used to continuously measure pressure drop, each liquid flow rate meter, and liquid pH meter shall be observed by the permittee with a frequency of not less than once per day to ensure good performance of the ejector/scrubber system.

Condition V.B.3. contains the opacity periodic monitoring. Monitoring of visible emissions will be required of the source to make an observation of the uranium metal dissolvers (EU-15A-1) stack (VS-14A-4) at least one time per week, when the units are operating. They are to observe for the presence of visible emissions from the stack. If visible emissions are observed, the permittee will have to take timely corrective action to resume operations without visible emissions or perform a VEE in accordance with 40 CFR 60, Appendix A, Method 9 to assure visible emissions compliance. The permittee will keep a log of observations, any VEE recordings, and any corrective action. If the unit has not operated during the week, this fact shall be noted in the log, and that the visible emission observation was not required. Also, if visible emissions have been conducted for 12 consecutive weeks and no visible emissions are seen, the permittee may reduce the monitoring frequency to once per month for the stack.

Recordkeeping

Condition V.C. contains the record keeping requirements for the uranium metal dissolvers (EU-15A-1). These are taken from the NSR permit issued 12/23/2004.

Testing

The permit does not require source tests. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

The only reporting that is required is stated in the General Conditions.

Streamlined Requirements

None

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

INSIGNIFICANT EMISSION UNIT

No additional insignificant units have been added.

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

Public participation is required for the proposed significant permit modification, per 9 VAC 5-80-230 D.

The proposed permit will be placed on public notice in The News and Advance from February 16, 2005 to March 18, 2005.